
Nomenclatural Notes on *Eriotheca* (Bombacoideae, Malvaceae)

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ABSTRACT. As part of the taxonomic treatment of *Eriotheca* Schott & Endl. in Brazil (Bombacoideae, Malvaceae), a lectotype is designated for *Bombax crenulatum* K. Schum. [= *E. gracilipes* (K. Schum.) A. Robyns], and an epitype is selected for *E. globosa* (Aubl.) A. Robyns. The change of status is proposed for two names in *Eriotheca*. *Eriotheca candolleana* (K. Schum.) A. Robyns var. *longipes* A. Robyns is recognized at the species level as *E. longipes* (A. Robyns) M. C. Duarte & G. L. Esteves; *E. macrophylla* (K. Schum.) A. Robyns subsp. *sclerophylla* (Ducke) A. Robyns is also recognized at species rank as *E. sclerophylla* (Ducke) M. C. Duarte & G. L. Esteves.

RESUMO. Durante o estudo taxonômico de *Eriotheca* Schott ex Endl. no Brasil (Bombacoideae, Malvaceae), verificou-se que mudanças eram necessárias. São designados um lectótipo para *Bombax crenulatum* K. Schum. [= *E. gracilipes* (K. Schum.) A. Robyns] e um epítipo para *E. globosa* (Aubl.) A. Robyns. Duas mudanças de status são propostas: *E. candolleana* (K. Schum.) A. Robyns var. *longipes* A. Robyns para *E. longipes* (A. Robyns) M. C. Duarte & G. L. Esteves e *E. macrophylla* (K. Schum.) A. Robyns subsp. *sclerophylla* (Ducke) A. Robyns para *E. sclerophylla* (Ducke) M. C. Duarte & G. L. Esteves.

Key words: Bombacoideae, Brazil, *Eriotheca*, Malvaceae.

Eriotheca Schott & Endl. (Bombacoideae, Malvaceae s.l.) comprises about 24 species distributed in South America. In Brazil, the genus is represented by 16 species, from northern Brazil to the state of São Paulo, which represents its southern extent. The genus is known to occur in the Atlantic rainforest, as well as Amazon forest and cerrado. *Eriotheca* is characterized by its small flowers that reach to 6.5 cm long and by the 18 to 170 stamens partially connate,

with the free filaments that emerge from the apex of the staminal tube (Robyns, 1963; Duarte, 2010).

Eriotheca has been historically interpreted differently in the taxonomic literature. The genus was established by Schott and Endlicher in 1832 on the basis of two species originally described within *Bombax* L. Schumann (1886) and van den Brink (1924) would later reject the use of *Eriotheca*, either synonymizing it under *Bombax* or recognizing it within *Bombax* sect. γ *Eriotheca* (Schott & Endl.) Bakh. It was not until 1963 that André Robyns would recognize *Eriotheca* at the rank of independent genus again, and his revision of *Bombax* s.l. is the most significant recent study of these taxa. The current authors recognize 19 species in *Eriotheca*, divided in four subgenera, three of which have Brazilian representatives, as *Eriotheca* subg. *Eriotheca* Schott & Endl., *Eriotheca* subg. *Tartaglia* (Capurro) A. Robyns, and *Eriotheca* subg. *Macrosiphon* A. Robyns (Duarte, 2010). During the preparation of a taxonomic revision of *Eriotheca* in Brazil, nomenclature within *Eriotheca* was clarified to facilitate future taxonomic treatments, as follows.

Eriotheca Schott & Endl., Melet. Bot. 35. 1832.
TYPE: *Eriotheca pubescens* (Mart. & Zucc.) Schott & Endl. (lectotype, designated by Robyns [1963: 125]).

Discussion. The history of the species type of the genus *Eriotheca* began in 1825, when Martius and Zuccarini described *Bombax parvifolium* Mart. & Zucc. (Martius, 1825). In 1826, the same authors committed an orthographic error, writing *B. parviflorum* instead of *B. parvifolium* (Martius, 1826). In 1832, Schott and Endlicher described the genus *Eriotheca*, characterized by the stamens partially connate, with free filaments emerging from the apex of the staminal tube, differing from *Bombax*, whose stamens emerge from the apex of the staminal tube

united in two androecial whorls. In the same study, the authors did not explicitly designate a type for the genus and proposed two new combinations based on the names published in 1826, transferring *B. pubescens* Mart. & Zucc. as *E. pubescens* (Mart. & Zucc.) Schott & Endl., and *B. parviflorum* Mart. & Zucc. became *E. parviflora* (Mart. & Zucc.) Schott & Endl. In 1963, André Robyns in his revision of *Bombax* s.l., realized the orthographic error and proposed a new combination based on the name published in 1825: *B. parvifolium* Mart. & Zucc. became *E. parvifolia* (Mart. & Zucc.) A. Robyns. Aside from this, Robyns would effectively designate a lectotype for the genus *Eriotheca*, based on the earlier combination, published in 1832, as *E. pubescens* (Mart. & Zucc.) Schott & Endl.

1. *Eriotheca gracilipes* (K. Schum.) A. Robyns, Bull. Jard. Bot. État Bruxelles 33(1): 145. 1963. Basionym: *Bombax gracilipes* K. Schum., Fl. Bras. (Martius) 12(3): 221, tab. XLII. 1886. TYPE: Brazil. Mato Grosso, s.d., H. A. Weddell 3336 (lectotype, designated by Robyns [1963: 145], P not seen).

Bombax crenulatum K. Schum., Fl. Bras. (Martius) 12(3): 219. 1886. TYPE: Brazil. São Paulo, s.d., W. J. Burchell 5252 (lectotype, designated here, K-000601265, digital image seen).

Discussion. Robyns (1963) did not designate a lectotype for *Bombax crenulatum*, but did annotate the Kew collection as a syntype (Robyns, in sched.). Schumann (1886) cited six syntypes in the protologue. With the exception of the collection *Sellow 1448*, probably destroyed in Berlin, all the remaining collections (*Burchell 5252*, K, *Riedel 2282*, K; *Regnell 1275*, R; *Lund s.n.*, C; *Riedel 448*, LE) were analyzed. The collection *Burchell 5252* (K) was chosen as lectotype because it corresponds to the description in the protologue (three to five leaflets and calyx campanulate to cupuliform, with toothed margin).

2. *Eriotheca globosa* (Aubl.) A. Robyns, Bull. Jard. Bot. État Bruxelles 33(1): 142. 1963. Basionym: *Bombax globosum* Aubl., Hist. Pl. Guiane 2: 701, tab. 281. 1775. TYPE: French Guiana. "Habitat Caiennae propè Loyola," tab. 281, in Aublet, 1775: 701 (lectotype, designated by Robyns [1963: 142], as "holotype," tab. 281 in Aublet, 1775). EPITYPE: Brazil. Amazonas: Rio Cauaburi, base da cachoeira Caranguejo, 4 Nov. 1965, B. Maguire, J. A. Steyermark & C. K. Maguire 60097 (epitype, designated here, MG; duplicates, MO-1827703, NY).

Discussion. The collection *Maguire et al. 60097* (MG, MO, NY) is chosen as an interpretative epitype, according to the Vienna Code (Art. 9.7; McNeill et al., 2006), because the specimen presents the principal morphological characters to recognize *Eriotheca globosa*, which include the floccose-ferruginous calyx, the reddish petiolules and leaflets, and the flowers reaching only 2.5 cm in length, the smallest *Eriotheca* of the Amazon. Aublet's plate 281 (1775: 701) is not sufficient to recognize the species because it lacks these characters as cited above. Aside from this, the plate shows characters compatible with other species of *Eriotheca* such as the globose fruits and leaves with five leaflets. Even though the *Maguire et al. 60097* collection is from Amazonas in Brazil, it is representative of the taxon as first described from French Guiana.

3. *Eriotheca longipes* (A. Robyns) M. C. Duarte & G. L. Esteves, comb. et stat. nov. Basionym: *Eriotheca candolleana* (K. Schum.) A. Robyns var. *longipes* A. Robyns, Bull. Jard. Bot. État Bruxelles 33(1): 136. 1963. TYPE: Brazil. Rio de Janeiro: Rio de Janeiro, Jardim Botânico (cult.), s.d., A. Duarte s.n. (holotype, RB-78222).

Discussion. The characters utilized by Robyns (1963) to describe *Eriotheca candolleana* var. *longipes* do not fit the delimitation of *E. candolleana*. The latter taxon was distinguished by its number of leaflets, number of nectaries on the receptacle, color of nerves, as well as pedicel lengths. However, both taxa are distinctive and the differences are sufficient to consider the variety as a species. The leaflets number three to five in *E. longipes* (vs. five to nine in *E. candolleana*), the nectaries are one to three (vs. five to seven), blade nerves are brown (vs. ferruginous), and pedicels are longer, 2.5–7 cm (vs. 0.2–4 cm). *Eriotheca longipes* may also be recognized by the lower number of stamens (70 to 80) and the denser inflorescence, with five to 12 flowers per cyme. This differs from *E. candolleana*, which presents 100 to 120 stamens and one to five flowers per cyme.

The two species may be distinguished by their distribution. *Eriotheca longipes* is known to occur only in the states of Minas Gerais and Bahia in Brazil, while *E. candolleana* is broadly distributed across the states of central Brazil (Goiás, Mato Grosso, Mato Grosso do Sul, and Distrito Federal), the southern region (Minas Gerais, São Paulo, and Espírito Santo), and also in the municipality of Alcobaça in Bahia.

Representative specimens examined. BRAZIL. Bahia: Vitória da Conquista, rod. Conquista/Barra do Choça, T. S.

Santos 2554 (CEPEC, R). **Minas Gerais:** Juiz de Fora, Sítio da Divina Providência, *L. Krieger s.n.* (CESJ-15275); Marliéria, Parque Est. do Rio Doce, 21 Oct. 1991, *J. R. Stehmann s.n.* (UEC-124962), *W. P. Lopes 159* & *V. V. Scudeller 616* (SP, VIC); Patos de Minas, Serra da Mata de Corda, *A. P. Duarte 4237* (RB-88751); Lima Duarte, São José dos Lopes, *V. C. Almeida 59* (R).

4. *Eriotheca sclerophylla* (Ducke) M. C. Duarte & G. L. Esteves, comb. et stat. nov. Basionym: *Bombax sclerophyllum* Ducke, Arq. Inst. Biol. Veg. 2: 58. 1935. *Eriotheca macrophylla* (K. Schum.) A. Robyns subsp. *sclerophylla* (Ducke) A. Robyns, Bull. Jard. Bot. État Bruxelles 33(2): 154. 1963. TYPE: Brazil. Amazonas: Santa Izabel do Rio Negro, 7 Jan. 1932, *A. Ducke s.n.* (holotype, RB-24825).

Discussion. Originally described as a species within *Bombax* by Ducke (1935), the taxon was transferred by Robyns (1963) to *Eriotheca macrophylla* on the basis of the small flowers and the staminal tube without whorls. In agreement with Ducke's earlier opinion that the taxon is distinctive at the species level, this rank is recognized within the different generic placement. *Eriotheca sclerophylla* can be distinguished by the leaflets that are completely glabrous and extremely rigid and leathery. It differs from *E. macrophylla* by the greater height of the trees, to 40 m (vs. 25 m in *E. macrophylla*), and the shape of the ovary, which is conical (vs. globose).

Both taxa may also be distinguished by their different geographic distribution in Brazil. *Eriotheca macrophylla* is known from the Atlantic rainforest (restricted to the states of Pernambuco, Alagoas, Bahia, Minas Gerais, Espírito Santo, and Rio de Janeiro), whereas *E. sclerophylla* occurs more broadly in Amazonian wet forests (Colombia, Peru, and Brazil, in the state of Amazonas). For *E. sclerophylla* and other species of *Eriotheca* that occur in the Amazon forest (*E. globosa* and *E. surinamensis* (Uittien) A. Robyns), these trees present leaves with three to five leaflets and may reach 40 m in height. However, these taxa differ by the characters of the calyx shape and margin, by the indumentum, and by the pedicel lengths.

Representative specimens examined. BOLIVIA. **La Paz:** Prov. Sud Yungas, basin of Rio Bopi, San Bartolomeo, *B. A. Krukoff 10326* (F, MO, NY, US). BRAZIL. **Alagoas:** Rio Largo, *R. P. Lyra-Lemos & L. Noblick 2639* (MAC). **Amazonas:** Santa Izabel do Rio Negro, Rio Negro, 7 Jan. 1932, *A. Ducke s.n.* (RB-24825). **Bahia:** Guaratinga, *R. P. Belém & R. S. Pinheiro 2745* (CEPEC, US). **Espírito Santo:** Linhares, Reserva Flor. Vale do Rio Doce, *J. Spada 25/77* (CVRD, R, WIS). **Minas Gerais:** Coronel Pacheco, *Heringer 2412* (RB). **Pernambuco:** Brejo da Madre de Deus, 8°12'27"–8°12'41.5"S, 36°23'7.30"–6°23'3.20"W, *L. M. Nascimento et al. 195* (HUEFS, RB). **Rio de Janeiro:** Rio das Ostras, Reserva Biol. União, *P. P. Oliveira 194M* (BHC, UEC). COLOMBIA. **Vaupés:** Rio Kananarí, Cerro Isibukuri, *R. E. Schultes & I. Cabrera 14700* (F, US). PERU. **Madre de Dios:** Cashucocha, Manu National Park, *A. Gentry et al. 26950* (MO).

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